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TITLE : SPACER FOR LIQUID CRYSTAL DISPLAY ELEMENT

ABSTRACT : PURPOSE: To obtain the spacer which prevents the damage of transparent electrodes and can uniformly control the gap between substrates with high accuracy by using glass fibers which are subjected to a dissolution treatment by an etching liquid to smooth both ends and have the standard deviation value of the diameter distribution at  $\leq 1.5\%$  with respect to the average diameter.

CONSTITUTION: The glass fibers to be dispersedly disposed between the substrates of a liquid crystal display element in order to control the gap between the substrates usually have sharp rugged shapes at both ends thereof which damage the transparent electrodes and lead to a disconnection in the case of using the glass fibers which are cut by means, such as grinding. The glass fibers to be used as the spacers are immersed into the glass etching liquid (for example, a hydrofluoric acid system or strong alkali system) in order to remove the ruggedness at the end faces of the glass fibers to smooth the end faces and to use the fibers as the spacers. The etching is executed by controlling the concn. and temp. of the soln. and the time in such a manner that the standard deviation value of the diameter distribution of the glass fibers attains  $\leq 1.5\%$  with respect to the average diameter.

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